ABSTRACT OF THE DISCLOSURE

The method for rendering using symplectic ray tracing is comprised the step of fixing the location of observation, fixing view screen of observation, practicing the symplectic ray tracing, acquiring the information of the color where the light rays cross the surface of the objects, rendering the objects according to the information of the color acquired.

The symplectic ray tracing of the present invention forms the Hamilton's canonical equation by applying the fast automatic differentiation techniques with the Hamiltonian H of the objects, and practices the symplectic integration by applying the symplectic Euler method to the formed Hamilton's canonical equation.

The present invention can provide the apparatus and method for rendering which can visualize the phenomena in non-homogeneously transparent object or the four-dimensional black hole space time.